

ABSTRACT OF THE DISCLOSURE

A vertical shaft impact crusher having a suspended impeller attachable to a hollow spindle with a modified gun lock system secured in place by fixed stops and sliding stops cam operated and clamped by a gear rotated nut. Said spindle journaled in a single ball bearing contained in a housing supported on flexible means; lubricant force jetted into said bearing from a pump initially driven by a small motor followed by being driven by one of two motors driving said spindle to insure against loss of lubricant by power failure to small motor. A frame supported by four vertical columns; a second smaller frame within said columns and connected to elevating means to raise and lower said smaller frame; self latching means to hold said smaller frame at its upper elevated position; camming means to release self latching means. An annular chamber centered on said smaller frame and attached to frame by bolts is partially covered over on its top; its uncovered portion is sealed against a member supporting a complete bearing-spindle assembly; The underside of said annular chamber has a center opening to discharge crushed product into a conical hopper having a telescoping extension. Two opposed motors each suspended below swingable frames drive said spindle with multiple vee belts; an inverted cup shaped vee sheave is attached to the top face of said spindle; it has the same number of vee grooves above and below a plane through the rolling elements of said ball bearing; motor sheaves positioned to drive an equal number of belts above and below said plane with balanced pulling forces. Said motor bases push-pulled by power means with pushing mode having belt tension control. A hopper above said spindle has a static tube depending through said hollow spindle and into said impeller a designed distance and bypass means spaced apart farther than the diameter of said impeller.